

Quake forecast program has amazing success rate

By Alan Buis



Historic structures and a vehicle were damaged in Paso Robles from January's 6.5 San Simeon quake.

A NASA-funded earthquake forecast program has an amazing track record. Published in 2002, the Rundle-Tiampo Forecast has accurately forecast the locations of 15 of California's 16 largest earthquakes this decade, including last week's tremors.

The 10-year forecast was developed by researchers at the University of Colorado (now at UC Davis) and from JPL. NASA and the U.S. Department of Energy funded it.

"We're elated our computer modeling technique has revealed a relationship between past and future earthquake locations," said Dr. John Rundle, director of the Computational Science and Engineering initiative at UC Davis. He leads the group that developed the forecast scorecard. "We're nearly batting a thousand, and that's a powerful validation of the promise this forecasting technique holds."

Of 16 earthquakes of magnitude 5 and higher since Jan. 1, 2000, 15 fall on "hotspots" identified by the forecasting approach. Twelve of the 16 quakes occurred

after the paper was published in Proceedings of the National Academy of Sciences in Feb. 2002. The scorecard uses records of earthquakes from 1932 onward to predict locations most likely to have quakes of magnitude 5 or greater between 2000 and 2010. According to

Rundle, small earthquakes of magnitude 3 and above may indicate stress is building up along a fault. While activity continues on most faults, some of those faults will show increasing numbers of small quakes, building up to a big quake, while some faults will appear to shut down. Both effects may herald the possible occurrence of large events.

The scorecard is one component of NASA's QuakeSim project. "QuakeSim seeks to develop tools for quake forecasting. It integrates high-precision, space-based measurements from global positioning system satellites and interferometric synthetic aperture radar (InSAR) with numerical simulations and pattern recognition techniques," said JPL's Dr. Andrea Donnellan, QuakeSim principal investigator. "It includes historical data, geological information and satellite data to make updated forecasts of quakes, similar to a weather forecast."

JPL software engineer Jay Parker added, "QuakeSim aims to accelerate the efforts of the international earthquake science community to better understand earthquake sources and develop innovative forecasting methods. We expect adding more types of data and analyses will lead to forecasts with substantially better precision than we have today."

The scorecard forecast generated a map of California from the San Francisco Bay area to the Mexican border, divided into approximately 4,000 boxes, or "tiles." For each tile, researchers calculated the seismic potential and assigned color-coding to show the areas most likely to experience quakes over a 10-year period.

"Essentially, we look at past data and perform math operations on it," said James Holliday, a UC Davis graduate student working on the project. Instrumental earthquake records are available for Southern California since 1932 and for Northern California since 1967. The scorecard gives more precision than a simple look at where quakes have occurred in the past, Rundle said.

"In California, quake activity happens at some level almost everywhere. This method narrows the locations of the largest future events to about 6 percent of the state," Rundle said. "This information will help engineers and government decision-makers prioritize areas for further testing and seismic retrofits."

So far, the technique has missed only one earthquake—a magnitude of 5.2—on June 15, 2004, under the ocean near San Clemente Island. Rundle believes this "miss" may be due to larger uncertainties in locating earthquakes in this offshore region of the state.

Genesis samples 'very, very good'

The Genesis team is preparing to ship its samples of the Sun from the mission's temporary cleanroom at the U.S. Army Proving Ground, Dugway, Utah, to Johnson Space Center in Houston.

"We have essentially completed the recovery and documentation process and now are preparing everything for transport," said Eileen Stansbery, Johnson Space Center assistant director of astromaterials research and exploration science. "We still have a way to go before we can quantify our recovery of the solar sample. We have come a long way from Sept. 8, and things are looking very, very good."

A major milestone was the recovery of Genesis' four separate segments of the concentrator target. The segments contain within their structure the samples that are the mission's most important science goal.

"Retrieving the concentrator target was our No. 1 priority," Stansbery said. "When I first saw three of the four target segments were intact, and the fourth was mostly intact, my heart leapt. Inside those segments are three years of the solar samples, which to the scientific community means eons worth of history of the birth of our solar system. I saw those, and I knew we had just overcome a major hurdle."

Other milestones in the recovery process included the discovery that the gold foil collector was undamaged and in excellent condition. The gold foil, expected to contain almost a million billion atoms of solar wind, was considered the No. 2 priority for science recovery. The polished aluminum collector was misshapen by the impact. However, it is intact and expected to also yield secrets about the Sun. Another occurred when the cleanroom team disassembled the collector arrays. They revealed, among large amounts of useable array material, some almost whole sapphire and coated sapphire collectors and a metallic glass collector.

The samples and shipping containers fill the space of about two full-size refrigerators. The Genesis material will probably move to JSC by the first full week of October.

"If you had told me Sept. 8 that we would be ready to move Genesis samples to Houston within the month I would have replied, 'No way,'" said Genesis Project Manager Don Sweetnam of JPL. "But here we are, with an opportunity to fulfill our major science objectives. It is a great day for Genesis, and I expect many more to come."

Software links pediatric doctors with new research

By Natalie Godwin



Surgeons at Childrens Hospital Los Angeles confer before beginning surgery to separate conjoined twins.

Conjoined twins from Guatemala and the Philippines were recently separated after marathon surgeries in the United States, since their small communities lacked the quality medical care for the delicate procedure. Engineers at JPL are working with doctors on a computer system that might eventually allow such high-tech surgeries to be performed in a remote country using a virtual pediatric intensive care unit.

JPL computer engineers created software that will connect information from various hospitals all over the world into one virtual intensive care unit. The system would link doctors who need detailed and specific information with researchers willing to share their data about pediatric medicine.

For example, if a pediatrician in North Carolina were to want information about the most advanced treatment for a child with bone cancer, he could search the database and find the latest medical studies conducted by researchers all over the country.

The software, called Object Oriented Data Technology Software, was modeled after the Planetary Data System, a large software network that helps space scientists translate terminology used in local databases into standard language. Similar software is used to support JPL's Mars Exploration Rovers.

"The problem has been that information has been generated for local use, and now scientists are discovering the value of sharing research within their various communities," said Dan Crichton, JPL senior computer scientist. "This has been true in planetary science and biomedicine and, now, in pediatric medicine."

With the extended databases, pediatricians can also record patient information directly from bedside moni-

tors regardless of their location. The computer system is also capable of storing the information so researchers can use it for clinical trials and helping educate other doctors dealing with similar patients.

Right now, the virtual pediatric intensive care unit is being developed and tested at Childrens Hospital in Los Angeles. Next year the system will be extended to Johns Hopkins Children's Center, Baltimore, and Cornell University Medical Center, New York.

"The goal of the virtual pediatric intensive care unit is to enable us to practice in one critical care unit where we will all have the latest information available to care for critically ill children," said Dr. Randall Wetzel, director of critical care medicine at Childrens Hospital, Los Angeles. "The fast paced, compelling urgency and the overwhelming diversity of diseases seen in children around the world makes communication among caregivers life-saving and essential, but at the same time difficult."

The virtual pediatric intensive care unit is ideal for hospitals without advanced intensive care units. In the next few years, engineers hope to install networked cameras, allowing doctors to check on their patients in remote areas and assist their colleagues working in isolated centers.

"It is extremely rewarding to see this NASA-funded technology solving a problem of national importance," said Dr. Ken Wolfenbarger, manager of JPL's Innovative Technology Transfer Partnerships Office. "As part of its mission, JPL welcomes the opportunity to collaborate with outside companies to develop and transfer dual-use technology through NASA's Innovative Partnerships Program."

News Briefs



Tom Frascchetti

Fraschetti honored by CSLA

Dawn Project Manager TOM FRASCHETTI will be honored by his alma mater, Cal State Los Angeles, as Distinguished Alumnus, College of Engineering, Computer Science and Technology on Oct. 21.

Fraschetti, an Arcadia native, earned a master of science degree in electrical engineering at Cal State Los Angeles in 1972. He has worked at JPL for 21 years. Previously, he served as deputy director for the Engineering and Science Directorate.

Cal State Los Angeles annually bestows 11 alumni awards, one for each of its academic colleges.

For more information about the event, contact NATALIE KINKELLA, Alumni Association director of membership and marketing, at (323) 343-6059 or nkinkella@cslanet.calstatela.edu.

2005 Benefits enrollment coming up

From Oct. 11–29, employees will be able to select their benefit options for 2005. Enrollment instructions and a detailed Comparison of Benefits chart will be mailed to each employee's home prior to Oct. 11. Retiree information will be mailed at the end of October.

The Benefits@Caltech newsletters sent out in September discussed important changes in the benefits program effective Jan. 1, 2005. These changes include:

- Returning to Blue Cross as JPL's primary insurer for Preferred Provider Organization and Health Maintenance Organizations plans, alongside Kaiser.
- Benefits eligibility expanded to include opposite-sex domestic partners who are registered with the California Secretary of State as long as one of the partners is at least 62 years old.

Employees may make enrollment changes online by accessing the JPL Annual Benefits Enrollment website located on employees' NBS Toolkit.

This year, it's important to review the enrollment materials provided and verify your dependent information online. In addition, if you are transitioning to the Blue Cross HMO plan it's also important to review the primary care provider data online to ensure that you are assigned the correct provider.

To assist you in making your enrollment selections, 2005 plan changes and Blue Cross Pharmacy and Transition of Care will be discussed as follows:

- Monday, Oct. 11, 11 a.m. 1 p.m., Building 180-101
- Tuesday, Oct. 12, 3–5 p.m., 180-101
- Wednesday, Oct. 13, 2–4 p.m., 180-101

- Thursday, Oct. 14, 3–5 p.m., 180-101
 - Friday, Oct. 15, 1:30–3:30 p.m., 167 conference room
 - Monday, Oct. 18, 11 a.m.–1 p.m., 180-101
 - Wednesday, Oct. 20, 9:30–11:30 a.m., 180-101
 - Friday, Oct. 22, 1–3 p.m., 180-101.
- In addition, medical and dental question-and-answer sessions will be held on the mall from 9:30 a.m. to 3 p.m. on Oct. 14, 21, 26 and 28.
- For questions on enrollment, please contact the JPL Benefits Office at ext. 4-3760.

Education Fair Oct. 13

Professional Development will host the JPL Education Fair on Wednesday, Oct. 13 from 11 a.m. to 1:30 p.m. on the mall. The event will provide a great opportunity for employees to learn about educational opportunities.

Representatives from 20 local universities and schools who are members of the Consortium of Southern California Colleges and Universities will be on Lab to answer questions regarding certification, undergraduate, graduate and doctorate programs. They will also be available to answer concerns on other education-related issues such as enrollment, scheduling courses, transferring credits, and financial options.

On-Lab training organizations are participating to inform employees of the wide range of training currently offered at JPL. Participants include JPL Training Providers, Acquisitions Division; Diversity Programs Office, Ethics Office, Information Technology Education and Training, Learning Management Systems, New Business Systems, Professional Development, Occupational Safety Office, Project Resource Administration Division, Quality Assurance and Software Quality Improvement.

For more information regarding the event or universities, visit <http://hrvet>.

NASA transition veterans sought

The 11th reunion for individuals employed by the federal government in the National Advisory Committee for Aeronautics is scheduled to be hosted by NASA Ames this fall. The event celebrates the 47th anniversary of the transition from the NACA to NASA.

Those who are among this group and have not received a letter of invitation mailed in late September are requested to contact the organizing committee by phone at (650) 604-1032, e-mail at nacareunion11@mac.com, or by letter to NACA Reunion XI, Ames Research Center, Mail Stop 207-1, Moffett Field, CA 94035-1000.

Special Events Calendar

Ongoing Support Groups

Alcoholics Anonymous—Meets Wednesdays at 11:30 a.m. For more information, call the Employee Assistance Program at ext. 4-3680.

Caregivers Support Group—Meets the first Thursday of the month at noon in Building 167-111 (the Wellness Place).

Codependents Anonymous—Meets at noon every Wednesday. For more information, call the Employee Assistance Program at ext. 4-3680.

Lambda (Gay, Lesbian, Bisexual and Transgender Networking Group)—Meets the first Friday and third Thursday of the month at noon in Building 111-117.

Parents Group for Children With Special Needs—Meets the second Thursday of the month at noon in Building 167-111 (the Wellness Place).

Friday, October 8

Percussion—Les Percussions de Guinee with Master Women Drummers of Guinea will present a program called *Amazones* at 8 p.m. in Caltech's Beckman Auditorium. For the first time, the renowned drumming ensemble from West Africa will share the stage with women, who were previously forbidden from playing. Tickets are \$29, \$25 and \$21; high school age and younger, \$10. For more information, call (626) 395-4652 or visit www.events.caltech.edu.

Saturday, October 9

Gobo Gobo: The Sounds of Nature—This family event will be presented at 2 p.m. in Caltech's Beckman Auditorium. Two high-definition films, *La Mer* and *Form of Forest; Color of Forest*, will be accompanied by live music. A discussion of the films with Caltech scientist Ann Marie Polsenberg will follow the screenings. Free admission. Presented as part of the "Saturdays at 2:00" series of family events, as well as part of The Tender Land: Pasadena Festival of Art, History, Music and Science. For more information, call (626) 395-4652 or visit www.events.caltech.edu.

Folk Music—Scottish harpist William Jackson will appear at 8 p.m. in Caltech's Dabney Lounge. Tickets are \$15 for adults, \$5 for children under 12. For more information, call (626) 395-4652 or visit www.folkmusic.caltech.edu.

Tuesday, October 12

JPL Stamp Club—Meeting at noon in Building 183-328.

Wednesday, October 13

Dr. David Goodstein—The vice provost and professor of physics at Caltech will lecture on his book "Out of Gas: The End of the Age of Oil" at 8 p.m. in Beckman Auditorium. Free admission. For more information, call (626) 395-4652 or visit www.events.caltech.edu.

JPL Amateur Radio Club—Meeting at noon in Building 238-543.

JPL Library Orientation—Come to Building 111-104 at 11:30 a.m. for an overview of the Library's products and services, and learn how to access numerous electronic resources from your desktop. For more information, call the reference desk, ext. 4-4200.

JPL Toastmasters Club—Meeting at 5 p.m. in the 167 conference room. Call Dirk Runge at ext. 3-0465 for information.

TIAA/CREF Enrollment Meeting—This workshop, held at noon in T1720-137, is designed to assist employees newly eligible for the Caltech/JPL retirement plan with selection of investment options and the completion of their enrollment forms.

Thu.–Fri., October 14–15

Von Kármán Lecture Series—Mars Reconnaissance Orbiter Project Manager Jim Graf and MRO Project Scientist Dr. Richard Zurek will present "An Unprecedented Look at Mars" at 7 p.m. Thursday in von Kármán Auditorium and Friday in Pasadena City College's Vosloh Forum, 1570 E. Colorado Blvd. Thursday's lecture will be webcast at <http://www.jpl.nasa.gov/events/lectures/oct04.cfm>. For more information, call Public Services at ext. 4-0112.

Saturday, October 16

Inti-Illimani—The Chilean group that performs traditional and world music on more than 30 wind, string and percussion instruments will appear at 8 p.m. in Caltech's Beckman Auditorium. Tickets are \$29, \$25 and \$21; high school age and under, \$10. For more information, call (626) 395-4652 or visit www.events.caltech.edu.

Mon.–Tues., Oct. 18–19

Investment Advice—TIAA/CREF will offer one-on-one counseling. For an appointment, visit <http://tiaa-cref.org> or call (877) 209-3140, ext. 2614.

Wednesday, October 20

JPL Library Orientation—Come to Building 111-104 at 11:30 a.m. for an overview of the Library's products and services, and learn how to access numerous electronic resources from your desktop. For more information, call the reference desk, ext. 4-4200.

Thursday, October 21

Clogging Class—Meets at noon in Building 300-217. For more information, call Shary DeVore at ext. 4-1024.

JPL Astronomy Club—Meeting at noon in Building 306-400. Charles Morris will discuss currently visible comets.

JPL Stories—Julie Webster, manager of the Cassini Spacecraft Operations Office, will present "The Perils and Pleasures of Cassini's Seven-Year Cruise" at 4 p.m. in the Library, Building 111-104. If you have questions about the story series or wish to participate, call Teresa Bailey, ext. 4-9233.

"Voices of Vision" Series—Bob Schieffer, Washington correspondent for CBS News and moderator of Face the Nation, will speak at 8 p.m. in Caltech's Beckman Auditorium. Following the talk, Schieffer will sign copies of his book *Face the Nation: My Favorite Stories from the First 50 Years of the Award-Winning News Broadcast*. Free admission. For more information, call (626) 395-4652 or visit www.events.caltech.edu.

Saturday, October 23

Celtic Music—Ireland's Lunasa will perform at 8 p.m. in Caltech's Beckman Auditorium. Tickets are \$22, \$18 and \$14; high school age and under, \$10. For more information, call (626) 395-4652 or visit www.events.caltech.edu.

Sat., Oct. 23–Sun., Oct. 24

Finishing Touches For Kidspace—Rides, games, entertainment and more will highlight the annual Pumpkin Festival, to be held at Brookside Park Saturday from 10 a.m. to 6 p.m., Sunday from 10 a.m. to 5 p.m., Free admission. For more information, visit www.kidspacemuseum.org.

Sunday, October 24

"Why We Lie: The Evolutionary Roots of Deception and the Unconscious Mind"—Dr. David Livingstone Smith will appear at 2 p.m. in Caltech's Baxter Lecture Hall in this Skeptics Society-sponsored lecture. Free for JPL/Caltech community. For more information, call (626) 794-3119.



From left: Dave Atkinson, Scott Cozy, astronaut Pam Melroy, Sharon Chapman, Eric Hines.

SFA program honors JPLers

Three JPL employees were recently honored by NASA's Space Flight Awareness Program.

Scott Cozy (Section 3443), Sharon Chapman (3210) and Eric Hines (2731) traveled to the Coronado Springs Resort and Conference Center in Lake Buena Vista, Fla., for a series of events held Aug. 22–27. Joining them was program guest Dave Atkinson, deputy technical manager of the Information Technologies and Software Systems Division. The four joined about 300 program honorees, including international partners working on the International Space Station.

The group's activities included a VIP tour of Kennedy Space Center, a dinner reception and an awards breakfast.

Family of Explorers

to travel New Year's parade route

By Mark Whalen



Right: Dr. Charles Elachi checks out the picture of the Lab's 2005 Rose Parade float, revealed Sept. 30.



Dutch Slagter/JPL Photolab

Anticipation is building for the completion of the JPL/Caltech entry in the 2005 Tournament of Roses Parade. With the strains of Elton John's "Rocket Man" being played in the mall on Sept. 30, Laboratory staff got a sneak peek at the float's design as they enjoyed about 1,800 root beer floats.

Pasadena-based Phoenix Decorating Company, selected early this year to design and build the float, revealed a picture of what the float will look like. In keeping with the 2005 Rose Parade's theme of "Celebrate Family," the Lab named its float—a 50-foot robot that will honor nine of the Lab's current missions—"Family of Explorers."

"This has been an extraordinary year for us, a great year of exploration and discovery," said JPL Director Dr. Charles Elachi. "Our intent is to culminate this year and start next year with another amazing event. The Rose Parade float is something we can all be proud of — to have millions of people around the world see what you do."

Indeed, the robot's arms and legs will be adorned with small models of Cassini, Stardust, Jason, Genesis, Galaxy Evolution Explorer (Galex), the Spitzer Space Telescope, the Gravity Recovery and Climate Experiment (Grace), and the twin Mars Exploration Rovers, Spirit and Opportunity. The rovers will appear at the bottom as the robot's "roller skates."

Construction began about four months ago and is intended to be completed around Thanksgiving, said Bill Lofthouse, founder of Phoenix Decorating Company. He said the base of the float would be about 50 feet long.

As the float rolls along Orange Grove, Colorado and Sierra Madre boulevards, special effects will include smoke, carbon dioxide, strobe lights and animation. "Rockets" behind the robot's arms will be activated.

"When we decided to have a float in the parade, our first thought was to design it and build it at JPL," joked committee chair Dr. Richard O'Toole, manager of the Legislative and International Affairs Office. "However, after thinking about an RTG-powered float that would last 12 years and cost a million dollars a pound to build, we decided to select someone else."

On the serious side, "This is not NASA money building the float," O'Toole said. "This is award fee money that's come back to Caltech and would have come to JPL for our terrific performance of the last year. That's what we're celebrating with this float, that's what's paying for it and no one should be concerned that we're using NASA funds."

JPL staff will make more contributions to the completed product. So far, more than 140 people—JPLers, their families and friends, and some high school clubs—have signed up to help decorate the Lab's float. Flowers, seeds or other natural materials, such as leaves or bark, are applied to floats during the last week in December at Rosemont Pavilion, next to the Rose Bowl.

The volunteer opportunity starts Dec. 26. Participants must be 13 years of age or older. To sign up, contact Public Services Office Manager Kim Lievense at ext. 4-0112.

For when parade day comes, the JPL Store is selling Rose Parade ticket packages. For \$45, you get a ticket to the parade, breakfast at Caltech's Dabney Lounge and an official parade program. Call ext. 4-6120.

In keeping with the 2005 Rose Parade's theme of "Celebrate Family," the Lab named its float—a 50-foot robot that will honor nine of the Lab's current missions—"Family of Explorers."

Astronaut visits local Explorer School

NASA EDUCATOR ASTRONAUT BARBARA MORGAN was joined by Blaine Baggett, executive manager of JPL's Office of Communications and Education, during a visit with students at Lake View Elementary School in Huntington Beach on Sept. 24. Lake View Elementary is part of NASA's Explorer School program, a three-year partnership of scientific and engineering adventures to engage students using unique NASA resources and capabilities. The visit was one of several conducted in recent weeks with Southern California Explorer Schools.



Bob Brown/JPL Photolab



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Notice to Advertisers

Advertising is available for JPL and Caltech employees, contractors and retirees and their families. No more than two ads of up to 60 words each will be published for each advertiser. Items may be combined within one submission. Ads must be submitted via e-mail to universe@jpl.nasa.gov and are due at 2 p.m. on the Monday after publication for the following issue.

All housing and vehicle advertisements require that the qualifying person(s) placing the ad be listed as an owner on the ownership documents.

Passings

CLARENCE HOLRITZ, 89, retired from the former Deep Space Network Support Section, 377, died Aug. 16. Holritz joined JPL in 1961 and retired in 1980. He is survived by his wife, Patricia, daughter Carole, sons David and Michael, five grandchildren, and four great grandchildren.

Services were held at Pacific View Memorial Park in Corona Del Mar.

MARGARET “MARGE” BRANDENBERG, 82, a retired executive secretary for the former Information Systems Research Section (364) in the Information Systems Division, died at her home in Leisure World, Laguna, on Sept. 6. Brandenburg worked at JPL from 1955–85. She is survived by a cousin, Grace McMillan, in New Jersey.

DR. DAVID BENDER, 91, a retired astrophysicist in JPL's former Advance Project Group in the Mission Design Section, died Sept. 13. Bender participated in planning the orbital mechanics of many mission projects, and his analytical techniques were widely used to evaluate missions. He was a pioneer in the generation of spacecraft trajectories that fly by or rendezvous with asteroids. To acknowledge his role as the leading expert in the orbits of minor planets, asteroid number 2725 was named in his honor.

He is survived by his son and daughter-in-law, Robert and Leta Bender; daughter Susan Rodrigues; and grandchildren Jeff, Allison and Kimberly. Memorial donations in his name may be made to the Nature Conservancy, 4245 N. Fairfax Dr., Suite 100, Arlington, VA 22203-1606.

Letters

I want to acknowledge and express my appreciation to the Jet Propulsion Laboratory, the New Millennium Program Office, and my officemates for the lovely plants, flowers, cards, and their expressions of sympathy toward me and my family for the loss of my wife, Cece, who went to be with the Lord on Sept. 2, 2004. Thank you and God bless you for your encouragement and support.

Chris Weaver

My father and I would like to thank my co-workers at Woodbury for their support and generous contribution to the American Cancer Society in memory of my dear brother Scot. I would like to especially thank my office-mate Ali Smilgis for her support and my management for their understanding. Thank you, too, to JPL for the lovely plant.

Kathie Reilly

Retirees

The following JPL employees retired in September:

John Hultberg, 40 years, Section 313J; Ralph Bartera, 39 years, Section 311G; Ralph Reichert, 35 years, Section 940; Peter Woiceshyn, 34 years, Section 3244; Vincent Anicich, 28 years, Section 3264; Michael Lou, 24 years, Section 354; Sharon Miller, 21 years, Section 3323.

The following employees retired in October:

Harry Reilly Jr., 47 years, Section 333J; Robert Toomath, 47 years, Section 353; Olen Adams, 39 years, Section 3417; Joel G. Smith, 35 years, Section 4031; Charles Black, 29 years, Section 9300; Gilbert Clark, 21 years, Section 3245; Jim Wiesneth, 21 years, Section 2652; Robert Axsom, 19 years, Section 515.

Classifieds

For Sale

BABY FOOD PROCESSOR by Dex, dishwasher safe, brand new in original packaging, \$20. 714/280-7368.

BED, Craftmatic adjustable, Model 1, queen orthopaedic mattress, wireless remote control, variable wave massage, very comfortable, exc. cond., like new, 1 yr. old, must sell, moving, \$1,700/obo (paid \$3,900). 626/844-9211.

BICYCLE RACK, heavy-duty, fits into 2" hitch receiver on rear of car/truck/RV, carries 2 bicycles, adjustable for each size, picture available by e-mail at 4cbcee@altrinet.com, \$50 (retails for \$140). 626/447-3857, Dick.

BIKE, Royce Union BMX, front & rear pegs, hand brakes, free-spinning handlebars, exc. cond., \$75. 626/797-3202, Andrew Cox.

BOYS BIKE, Diamondback, Octane 20, 6 speeds, 20" wheels, top cond., \$75/obo. 790-6851, Roger.

CAMERA, Nikon F100, 24-120 mm D Lens, Hoya ultraviolet and polarization filters, Sun Pak power zoom, 4000 AF, Tamrac camera bag, almost new, \$1,400/obo. 790-5965.

CHAIR, reclining barca-lounger type, dk. blue floral pattern, exc. cond., \$100/obo. 790-5341.

CLOTHES, infant: jacket, red/navy blue, zip-up w/hood (Old Navy), size 2T, exc. cond., \$5/obo; sweater, sky blue w/navy trim, buttons, size 3T, \$1/obo; zipper shoes, Spongebob motif, size 11M, exc. cond., \$5/obo; photo of each avail. 626/791-6101.

COFFEE TABLE, Victorian style, genuine polished Carrera marble top, imported from Italy, hand carved, solid mahogany wood base, constructed and sold in the US, approx. size 33" W x 22" D 17" H, \$300. 368-8160, eves.

COMPUTER, Macintosh G3, PowerMac desk-top, complete w/19" Iiyama monitor (top rated), scanner, Epson color printer, modem, extra RAM, works perfectly, all for \$150. 626/798-2925.

CONCERT TICKETS, PJ Harvey, Oct. 25 at the Wiltern, Mezzanine, row L, seats 209 & 210, \$90. 626/791-8161.

CRIB, Child Craft, oak, light natural color, incl. Serta Baby Premier Mattress, exc. cond., non-smoking home, \$150. 626/256-6606.

DESK & HUTCH, \$40. 626/304-0688, eves.

FURNITURE: complete 3-piece bedroom set includes armoire, headboard component, containing mirror, shelf, drawers, 2 attached side dressers, and dresser with mirror, white-wash finish, \$250. 626/794-1432.

FURNITURE: 2-piece Bassett sectional (1 pc. is a sleeper), floral print, photo & dimensions avail., cushions need new covers, rest in gd. cond., \$250/obo. 626/791-6101.

FURNITURE, almost new, king size. Brass & Nickle head/foot board, purchased at Pacific Design Center for \$2,800, sell \$500/obo; king size Sealy Posturpedic mattress, great cond., \$150/obo. 626/441-5484, Debbie.

GARAGE SALE, Sat., Oct. 9, 9:00-3:00, 1250 Hastings Ranch, Pasadena. 626/351-0348.

HIGH CHAIR, wood, Windsor style, 38" H, gd. cond., about 5 yrs old, used for visiting grandchildren, photo available, \$50. 909/596-4390.

JEWELRY, Paloma Picasso daisy pendant, platinum, round, brilliant diamonds, .15 carat total. G color, VS clarity, 16" chain, paid \$1,395, sell for \$1,000 (purchased at Tiffanys). 626/644-0890.

JUICE FOUNTAIN, Breville, powerful, stainless steel motor, great for daily juicing, bought 10/03, used 2-3 times only, original package, \$100/obo. 626/840-0955.

MEDICAL EQUIPMENT: Invacare walker, dual-release w/3" fixed wheels, model #6291-3F, lightweight, height adjustments, ergonomic folding mechanisms, 300 lb. weight capacity, lifetime warranty, almost new cond., sell for \$50 (new \$130). 714/280-7368.

MISC: all brand new: whole house fan, Master Flow 30" (36 wide) belt drive, \$180 new, sell for \$100; lg. toaster oven, \$75; Cuisart coffee machine, \$75; used exercise equip., Nordic Trak, \$100; rowing machine, \$40; couch set, country motif with Italian floral tapestry, \$500/set. 626/797-3082.

MISC: carpet, nearly new, light mauve, high quality, 2 pieces, 16 x 17, \$125, & 12 x 11, \$80; rocking/nursing chair and ottoman, new, solid wood, natural finish, elegant tapestry patterned cushion, \$125; dryer, apartment size, gas, white, \$70. 626/794-1432.

MISC: pool table, 8', \$500; tablecloths, 2 slate blue oval, 18 matching napkins & rings; mail- box, oversized, green, \$10; mailbox, new, black, \$10; wig, red, shoulder length, never used, \$20; electric frying pan, \$10; an-sw. machine, \$5; basketball set, portable, needs net, \$200; fishing pole, saltwater, \$25; mattr. for bunk bed, gd. cond., \$10; baseball glove, small, & conditioner, gd. cond., \$25. 626/357-8210.

MISC: Kenmore refrigerator, black, 8 years old, works great, \$250; Whirlpool clothes dryer, 10 years old, works great, \$100; Maytag washer, 10 years old, works great, \$100; gas barbecue, \$50; best offer will be considered. 626/859-6393, Cheryl.

MOUNTAIN BIKE, Pacific, front and rear shock absorbers, 21 speeds, Shimano gears, hill-assist handle bar extensions, great cond., \$75. 626/797-3202, Ryan Cox.

PINE TREES, Bishop, 2, large, healthy and beautiful, 15' and 8', \$70 for both. 249-4561.

PLAYPEN / TRAVEL CRIB, Graco Pack & Play, navy blue, folds up for easy transport, incl. navy blue nylon tote bag, non-smoking home, great cond., \$25. 626/256-6606.

PRINTER CARTRIDGE, inkjet, brand new, \$16, replaces 51626A, for HP DeskJet 4xx, 5xx, Plus, Fax, etc. 626/679-5168.

REFRIGERATOR, Kenmore 22 cu. ft., side-by-side, automatic icemaker, through-door ice & water dispenser, white, gd. cond., avail. after 10/15/04, \$75. 626/794-6860.

REFRIGERATOR, GE Hotpoint, 14(?) cu. ft., pale beige, top freezer; WxDxH: external 28.5" x 28" x 61.5", top internal 24 x 18.5 x 15.5, bottom internal 25 x 18.5 x 37; frost-free, exc. reliability, 100% uptime since '92, doors can be hinged either side, all interior plastic intact, cleaned and sanitized (photos: home.earthlink.net/~ckc000/fridge), \$95 (or make offer). 626/791-7219 (eve.), 626/616-5034 (cell), KheeChan@earthlink.net.

SOFA, re-upholstered, older but seldom used, vg condition, 8' L x 31" H x 38" D, light blue floral with pink, quilted, \$200; MATCHING DRAPERY, floor-length tie-back panels and valance, 2 sets, \$50; DRAPES, loose weave, cream with pink dots, floor length, 2 sets, \$50; all draperies have been cleaned and ready to hang, hardware included, photos avail. 909/596-4390.

TELEVISION, 27" color Toshiba, stereo, picture-in-picture and more, remote, like new, works great, \$125. 661/972-2225.

TROPICAL PLANTS, plumerias, variety of colors and sizes; shell ginger. 626/444-6156, Annie & Bob DePonte.

WASHER, Whirlpool, heavy duty, lg. capacity, 2 speed, 5 cycle, temp. and load size selector; Whirlpool gas dryer, lg. capacity 3 cycle, 3 temp. w/pern press cycle, white, works well, sell as set only, avail. after 10/15/04, \$150/both. 626/794-6860.

WASTEBASKET, white, plastic w/metal guide rail, about 1 x 2 x 3 ft. tall, installs inside kitchen cabinets to hide trash, brand new, in original box with screws for installation, \$80/obo. 626/840-0955, leave msg.

Vehicles / Accessories

'97 CHEVROLET Tahoe, gd. cond., loaded, 4-wheel drive, 105K mi., \$9,000. 310/327-1080, Marji.

'00 LEXUS ES 300, automatic, leather powered seats, moonroof, CD changer, metallic two-tone black, power everything, exc. cond., 29K mi., \$19,500. 909/630-5176.

'93 MERCURY Sable GS wagon, 4-dr., automatic V6, metallic silver, very clean in/out, runs great/quiet, regularly maint., 120K mi. \$1,600/obo (KBB \$2,000). 626/304-9249.

'93 MERCURY Villager minivan, gray, new motor, new front & rear a/c, exc. cond., first owner, \$7,000/obo. 909/823-4711, Loni.

'02/03 SUZUKI GSX 600 Katana, yellow/black, kept in garage, exc. cond., only 1,200 mi., includes helmet, cover and lock, \$5,000. 626/796-1044, Benny.

'99 TOYOTA Camry XLE, top of the line, loaded, V6, CD player, moonroof, power leather seats, auto, 50K mi., exc. cond., \$11,500. 909/630-5176.

'02 VOLVO V4 wagon, only 14,500 mi., 4-cyl., 1.9L turbo, exc. cond., silver color, a/c, stereo/ cass./CD, dash cover, garage parked, all serv-ice records avail., 15K mi. service completed, new rear brakes, both dealer warranty & extra VIP extended warr. (orig. cost \$1,530) are transferable, \$16,590. 626/355-5631, Tim.

'95 YAMAHA FZR 1000, motorcycle, 25K easy mi., adult owned, new battery, tires, \$3,800. 626/584-9844.

Free

CAMPER SHELL, for pick-up truck. 957-2852.

CATS: fabulous felines seeking pet-friendly home, 10-year-old Bobtail named Rodney, male, neutered, all shots; 4-year-old Tabby named Candie, female, spayed, all shots; Rodney needs regular grooming, Candie does not. 504-6232.

COMPUTER DESK, gd. cond., 48" L x 24" W x (28" H + 24" H hutch), pickup location very close to JPL. 626/345-0079.

FURNITURE: solid walnut coffee table with glass top; dark brown vinyl recliner; oriental rug (5-1/2 x 8), two queen sofa beds; all in gd. cond., except sofa beds which are in fair cond. 626/441-6536, Steve or Jeanne.

GRASS, St. Augustine, healthy, you dig it up, no weeds but there are tree roots, promise to not leave a mess and watch out for (marked) sprinkler heads. 626/794-9470, Nancy.

INTEGRA SHOP MANUAL, factory, well loved and worn, for 1990-93 models, purchased for over \$50, it got great use but the car was sold to a dealer. 679-3323.

MELON SEEDS from organically grown heritage varieties, including Ambrosia, Rayyon, Golden Gopher (yes, that's its name) & others, delicious cantaloupe and casaba-type melons not found in supermarkets, easy to grow. 626/798-3235.

ORGAN, 1970 Gulbrandsen Paragon, all transistor, a few keys do not work, a good challenge for someone who likes to tinker, owner's guide w/instructions, a beautiful piece of furniture, with bench. 626/797-7320, Don or Elva, or leave message.

REFRIGERATOR, good second one for kitchen or garage. 957-2852.

Wanted

BOOKS, used/new, paperback or hardback, or magazine, romance, science fiction, mystery, etc. 248-0178, engineerbob4449@yahoo.com.

COMPUTER, laptop, min. 600 MHz, must have audio/mic. capabilities, USB 2.0 ports, CD-ROM and floppy or CD/RW, needed for child with dyslexia, can pay \$500 max. 390-646.

CONTROLLER to join admin. team at Child Educational Center, Caltech/JPL Community, part-time; candidates must have a bachelor's degree and a minimum of 5 years accounting experience with 2 years in a supervisory role; CPA and experience in a non-profit environment is desirable; wonderful, supportive work environment, flexible work hours, good benefits, Equal Opportunity Employer; go to www.ceonline.org for more info; send resume to Elyssa Nelson at ernelson@caltech.edu. 354-3418.

MATH TUTOR, Jr. & Sr. high school level geometry, pre-algebra, algebra I & II, SAT math, etc. eves. and/or weekends. 888/784-1639, David, please leave msg.

RIDER, from Claremont area to JPL, share gas, work 9-6. 909/624-9564.

SPACE INFORMATION/memorabilia from U.S. & other countries, past & present, for personal use. 790-8523, Marc Rayman.

VANPOOL RIDERS, from Victor Valley/Hesperia. 4-1424, Scott.

VANPOOL RIDERS, from Walnut (Grand & Amar). 4-9735, Barbara.

WELDING MACHINE, MIG 220V, gd. cond. 323/662-4089.

For Rent

ALTADENA guest house, new studio, fully furnished, all util. paid, 3 mi. from JPL, washer & dryer incl., \$900. 626/798-5796.

ALTADENA "sabbatical house," 3 bd. + study, boundary Angeles Nat'l Forest, 3 miles from JPL (trails to Lab behind house), view, hardwood floors, antiques, completely furnished: includes dinnerware, utensils, pots/pans, linens & towels, fine soaps, necessities included, just bring toothbrush & clothes, TV/DVD/VHS, Dish satellite, wireless DSL, garden, fruit trees, patio, BBQ, parking, private, immaculate. 626/798-3235, info/visit.

GLENDALE, Rancho San Rafael community, executive view home, 4 bd. + office, 3.5 ba., living rm. w/high ceiling, formal dining rm., family rm. w/built-in entertainment center, lg. kitchen w/breakfast area, laundry rm., 3 fire-places, 2-zone a/c-heat, security system, 3-car garage, yard w/city view, spa, patio, BBQ, community pool & tennis, built 1990, min. 1-yr. lease, non-smokers, \$4,500. 240-6956.

PASADENA house, 3 bd., 2 ba., 2-car gar., 3 mi. from JPL in historic Highlands area, quiet area near foothills, private yard, stove/frig., washer/dryer, dishwasher, fireplace, semi-furn., water/gardener/trash incl., \$1,750 + util. + security dep., 1-yr. lease. 626/840-1399.

PASADENA, 1920s apartment close to Caltech, 2 bd., 2 ba., living rm., dining rm., kitchen & office, ample storage, hardwood floors, fireplace, front and back enclosed decks, 1,400 sq. ft., gardener, water, trash paid, \$1,800. 249-3602 or 626/398-8865.

PASADENA, spacious very private rm. + priv. bath in condo, great location nr. Caltech, quiet, very clean, lg. closets, shared kitchen/ living rm., large balcony/nice view (green trees), gated security garage, laundry in building, quiet male preferred, \$530 + \$35 util. 626/796-9221.

Real Estate

PASADENA 3 bd., 2.5 ba., 2-car garage, relatively new attached home in quiet area; community pool, near schools/shops/JPL/Caltech; 2-story, 1,700 sq. ft., family rm., living rm., dining rm., breakfast nook, balcony, yard. 998-2032.

LA CRESCENTA home, quiet cul-de-sac, 3 bd., 1 3/4 ba., re-plastered & tiled pool, 2-yr.-old roof, new kitchen, game rm. w/pool table, formal dining rm. w/fireplace, central vacuum sys., auto sprinklers, \$739,000. 248-3278.

LOS ANGELES, 90032, just 1 block from S. Pasadena, built in 1910, single-family home, beautiful craftsman style, 4 bd., 1.5 ba., stone fireplace w/mantle, nice front porch, hardwood floors, laundry in basement, copper plumbing, newer electrical, tiled counters in kitchen, long driveway, huge lot, nice landscaping, ceiling fans, custom molding, as-is cond., \$489,000. 562/902-4114, Daniel Rowe.

Vacation Rentals

ARROWHEAD cabin, lake view, 6 max., \$140/weekends, \$350/week, others available, security/cleaning deposit required. 952-6221, Mon.-Thur.; 909/337-1036, Fri.-Sun.

BIG BEAR LAKEFRONT luxury townhome, 2 decks, tennis, indoor pool/spa, beautiful master bd. suite, slps. 6. 949/786-6548.

CAMBRIA house, ocean front, exceptional white water view, accom. up to 4 people, all amenities provided. 702/256-1359 & ereynolds2@cox.net.

FLORIDA condo, beautifully furnished 2 bd., 2 ba., second floor, on the surf of New Smyrna Beach, half-hour to Cape Canaveral, 90 min. to Disney World, enjoy all the comforts of home, quiet, relaxing, overlooking beach and ocean, BBQ, pool, game room, easy walk to stores and restaurants. 760/439-7821, Darlene, or dfhaug@yahoo.com.

HAWAII, Maui condo, NW coast, ocean front view, 25 ft. fr. surf, 1 bd. w/loft, compl. furn., phone, color TV, VCR, microwave, d/w, pool, priv. lanai, slps. 4, laundry fac., low season rate \$115/nite/2, high season rate \$130/ nite/2, \$15/nite/add'l person. 949/348-8047 or jackandrandy@cox.net.

MAMMOTH, Snowcreek, 2 bd., 2 ba., + loft, slps. 6-8, fully equip'd kitchen incl. microwave, D/W, cable TV, VCR, phone, balcony w/mtn. view, Jacz., sauna, streams, fishponds, close to Mammoth Creek, JPL disc'nt. 626/798-9222, 626/794-0455 or valeriee@caltech.edu.

OCEANSIDE condo, on the sand, charming, 1 bd., panoramic view, walk to pier or harbor, pool/spa, game room, slps. 4. 949/786-6548.

RESORTS, 5-star Hyatt and Marriott, including Carmel, Tahoe, Sedona, Colorado Rockies, Florida and Puerto Rico, luxurious residential-style studios with furnished kitchenette, starting at \$450 for 7 nights; 1 bd. w/full kitchen, living room, \$700/wk., 2 bd., \$1,000/wk., partial weeks also available; specials, Palm Springs, Lake Tahoe, Vail, Park City, Puerto Vallarta, studio, \$399/week. 626/794-9579 or fivestarresorts@earthlink.net.

ROSARITO BEACH condo, 2 bd., 2 ba., ocean view, pool, tennis, short walk to beach on priv. rd., 18-hole golf course 6 mi. away, priv. secure parking. 626/794-3906.